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Catherine A. Manly

University of Massachusetts - Amherst, cmanly@umass.edu

Ryan S. Wells

University of Massachusetts - Amherst, rswells@educ.umass.edu

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Financial Planning for College: What Parents Do To Prepare

Catherine A. Manly

Ryan S. Wells

University of Massachusetts, Amherst

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Abstract

This study explores reported parental financial college preparations and the amount parents have saved for college, with a goal of determining strategies used by different parents based on parental college aspirations and expectations for their child, as well as the highest reported parental and grandparental educational levels. Regression analysis indicates that parents' expectations, but not their aspirations, correspond to engagement in financial planning. Family education is strongly associated with taking some financial planning actions and the amount saved. The results may be helpful to those who are working to increase the effectiveness of disseminating college financial information to parents.

Financial Planning for College: What Parents Do To Prepare

Introduction

The idea that college is expensive has pervaded the popular imagination (Chatzky, 2006; Immerwahr, 2000), fed by alarming (sometimes eye-catching) reports that average tuition and fees have risen faster than inflation for many years and that many families have trouble paying for college without taking out large loans (Bergamin & Viggiano, 2008; Marklein, 2009; Public Higher Education Network of Massachusetts, 2007; Spiers, 1995; "You Don't Have To Owe An Arm," 2008). These concerns, which have been fed by the policy shift in aid from grants to loans (Hearn & Holdsworth, 2004) and the increasing financial burden on families overall (College Board, 2007a, 2007b, 2008b), have recently been exacerbated by the worldwide financial crisis. Although the net price for the majority of students is lower than the published rates (College Board, 2007a), the complex financial aid system that makes this possible is either confusing or unknown for many parents of pre-college students, parents who will be expected to make significant contributions when aid packages are calculated (Whiteside & Mentz, 2004).

Despite the voluminous amount of information that is available to parents at local libraries, bookstores, and on the web about options for funding their children's college education, understanding, perception, and actual use of this information varies widely, particularly by race/ethnicity and socioeconomic status (Luna de la Rosa, 2006; Perna, 2006; Trent, Lee, & Owens-Nicholson, 2006). As a result, significant numbers of eligible college students do not fill out the federal Free Application for Federal Student Aid (FAFSA) form that is required to access that financial help (College Board, 2008a). There is debate among researchers as to whether this is primarily due to problems of information or costs (Perna, 2006). Venegas (2006) claims that although low-income students and their families have access to computers in various ways, they

lack the knowledge and support to navigate the online resources. Whatever the reason, the current system leads to reduced opportunities for students from low socioeconomic circumstances (Paulsen & St. John, 2002). Despite the costs, there is general recognition that a postsecondary education is beneficial among both the general public (Immerwahr, 2000) and the government (U.S. Secretary of Education's Commission on Higher Education, 2006), and parents across racial groups hold significant expectations that their children will attend college (Immerwahr, 2000).

A rich body of literature exists concerning parental expectations for children's postsecondary education, showing a positive association with students' expectations and other educational outcomes (Marjoribanks, 1998; Stage & Hossler, 1989). Other research has explored parental anticipation of providing financial assistance for college (Herrold & O'Donnell, 2008; Immerwahr, 2000; Lippman et al., 2008), and attention has been given within the enrollment and financial aid professional communities to communicating financial options to parents (Minnesota Higher Education Services Office, 2004; Whiteside & Mentz, 2004). However, there has been relatively little research within the education community on actual actions parents take in preparation for financing children's postsecondary education that could facilitate turning those expectations into postsecondary attendance and persistence (Horn, Chen, & Chapman, 2003). A recent exception to this is a study by Sallie Mae (2009) that examined how parents save for college via various mechanisms, ultimately recommending that more incentives to save should exist to avoid over-borrowing and the burdens associated with it. Beyond this recent study, the general lack of research in this area may be partly due to the sensitive nature of personal finances, and the unwillingness many people have about divulging such information. However, it

is probably also partly due to a paucity of education-related data including parental financial planning information during the pre-college years.

In 2002, the Education Longitudinal Study's survey of parents of high school students addressed this data gap in the education community (National Center for Education Statistics, 2002). Using these data, this study aims to identify who had begun to prepare financially for their 10th grader's postsecondary education and what steps they were taking. We specifically evaluate whether parental aspirations and expectations for their children, as well as family education levels, relate to actual postsecondary financial planning. While we predicted that higher parental aspirations, expectations, and family education would correspond to increased likelihoods of financial preparation and higher amounts of saving, the relationships found were more complex. The results may be helpful to those, such as college planning advisors, financial planners, institutional admissions officers, and school counselors, who are working to increase the effectiveness of disseminating college financial information to parents.

Background

Enrollment in college is dependent on a number of factors. One of the most frequently demonstrated predictors of college enrollment is income, wealth, or some other form of financial capital. In addition, the college transition literature has shown a number of other family-related factors to be predictive of postsecondary matriculation, such as parental expectations, parental involvement, parental education, and resources in the home. Expanding on Bourdieu's (1971; 1986) original concepts, several education scholars have framed some of these variables, along with others, as components of cultural and/or social capital (e.g., Perna, 2000; Perna & Titus, 2005; Wells, 2008).¹

¹ There are warnings against superficial quantitative operationalizations of social and cultural capital (see Smart, 2005).

Social capital (Bourdieu, 1986; Coleman, 1988; Portes, 1998) includes the social and personal networks that people utilize for interpersonal assistance, which for students are often developed in the home as well as the school and other locations (Coleman, 1990). Cultural capital (Bourdieu, 1986; Bourdieu & Passeron, 1977) includes forms of symbolic wealth that help define a person's class, which are often inherited from one's family and therefore may help to sustain upper- and middle-class status groups (McDonough, 1997, 1998; Swartz, 1997). Closely related is one's habitus, which is defined as "a system of lasting, transposable dispositions" which generate action, or a "matrix of perceptions, appreciations, and actions" (Bourdieu, 1971, p. 83), and as a "manifestation of cultural capital" (Berger, 2000, p. 118). Habitus is an unconscious, internalized force which predisposes those of given social classes, and with similar amounts of cultural capital, to take advantage of certain opportunities available to them – in our case, actions to prepare financially for a student's college education.

According to Bourdieu (1986), these forms of capital can be converted, and importantly, may be converted from one form to another. Martin & Spenner (2009) used the theoretical concept of capital conversion to study legacy students in college. These authors write: "Processes that support academic achievement, such as cognitive development, habits and values, and financial investments in schooling are central in intergenerational transmission (Bourdieu and Passeron, 1977)" (p. 625). We examine intergenerational transmission via capital conversion prior to college. We explore whether family social and cultural capital (partially represented here by parental aspirations/expectations, parental education, and grandparental education) net of family income and a host of other predictors from the literature, are converted into financial capital in the form of monetary actions to prepare for a student's college education. In this way, we are not framing family aspirations/expectations and education solely as direct influences on

college enrollment, but also as indirect influences by converting those family assets into financial resources specifically designated for the student's continued education.

Factors Shown To Impact College Financial Planning

Relatively few studies have linked parental financial planning behavior to parental college expectations for their children. Various educational and demographic characteristics have been identified that impact college savings attitudes and/or planning, but these have either not been connected to parental expectations or not to the type(s) of planning behaviors which actually occurred (DeVaney & Chien 2002; Dynarski, 2004; Horn et al., 2003; Yilmazer, 2008). Studies linking parental expectations with anticipation of providing financial assistance also typically have not distinguished parents' idealistic aspirations from realistic expectations for their children (Herrold & O'Donnell, 2008; Lippman et al., 2008). Therefore, the impact of parental aspirations and expectations on specific types of college financial planning behaviors has not yet been fully investigated.

Additionally, previous literature has not examined the impact on college savings of the highest education level attained by a child's grandparents, but this has potential relevance. Because a higher level of parental education corresponds to parental college financial planning (Dynarski, 2004; Horn et al., 2003), and it has been theorized that parent finances support the development of family educational capital as children grow (Marjoribanks, 2005), it seems plausible that there may be an additional effect on college financial planning in families of potential third generation college students.

Slightly over 60% of parents of pre-college students have typically saved for college over the last decade (Horn et al., 2003; Sallie Mae, 2009). Before families actually start saving, however, they need to be motivated to do so. Using a hierarchy of savings motives, which ranged

from no savings, through basic and safety needs, to future security, love and societal needs, and luxuries, DeVaney, Anong, and Whirl (2007) analyzed the Federal Reserve Board's 2001 Survey of Consumer Finances (SCF) to find that households who moved from planning for future security to love-based needs such as saving for children's education tended to be older, have smaller families, and have made planning part of their lives for a year, although surprisingly income was not significant. The framework of this hierarchy indicates that families who are mostly concerned about basic needs and safety are probably not saving for college, and neither are those just beginning to save for the future.

Married couples with a longer-term planning horizon (e.g. 5 to 10 years) are more likely to have college education as their primary goal if they have more children (DeVaney & Chien 2002). However, parents have been found to save less per child the more children they have (Yilmazer, 2008). A more recent study examining whether parents had thought about paying for college by the student's 8th grade year concluded that low-income and less educated parents were not only less likely to have thought about it, but more likely to report having no way of getting money for college for their children (Warnock, 2009). These results coincide in some ways with family economy theory (Fuller, Singer, & Keiley, 1995; Horan & Hargis, 1991; Walters & O'Connell, 1988), which implies constraints on a family's plans for any individual child due to finances and/or family size due to a concern for the more immediate welfare of the entire family.

Considering college education savings as a family's primary financial planning goal has been found to be more likely if the household head is in good health, works full time, and if the spouse works (DeVaney & Chien 2002). Whether the family saves regularly has been shown not to impact attitudes toward college savings (DeVaney & Chien 2002), but education savers who invested in 529 plans in 2001 have been found to have relatively high income, net worth and

retirement savings (Dynarski, 2004). In other words, they were already savers. However, saving through 529 plans has expanded significantly since that study, so the profile may have changed. In addition, prepaid 529 plans may actually have a disincentive built into them for low-income families, since saving in this manner may reduce the need-based aid for which their child may qualify (Ifill & McPherson, 2004).

Even though income was not a factor in college savings attitude or in moving up the hierarchy of savings motives (DeVaney et al., 2007; DeVaney & Chien 2002), a recent Sallie Mae study found significant differences in savings behaviors by family income (Sallie Mae, 2009). In another study, parents with higher household incomes were shown to be more likely to have started financial planning for college (Horn et al., 2003). Other research has demonstrated that family income substantially affects actual college enrollment, with children from families of higher incomes more likely to attend a postsecondary institution (Acemoglu & Pischke, 2000; Bowen, Kurzweil, & Tobin, 2005). Thus, there appears to be some inconsistency in the research on the interaction of income with college savings, saving attitude, and actual college attendance.

The results for ethnicity have also been inconsistent over time, with some studies showing that race and primary language are significant (Horn et al., 2003), and others finding no impact of ethnicity on college savings behaviors (DeVaney & Chien 2002; Sallie Mae, 2009). Education savers have been found to send their children to private school, to plan to send their child to a four-year institution, and to be more involved in their children's school. Their children had higher grades and were more likely to have never been held back in school (Horn et al., 2003). This paints a picture of the families of savers as doing relatively well compared to non-savers.

The amount of college savings has also been found to increase for families with older household heads (Dynarski, 2004; Yilmazer, 2008). However, from a financial planning standpoint, given that the federal method for calculating aid protects certain assets (such as retirement savings) and only assumes a little over 10% of total parental savings is available to pay for college expenses, saving for college at any age still makes financial sense for families who earn too much to qualify for federal Pell grants and who are in a cash flow position to set aside money, particularly using tax-advantaged options (Whiteside & Mentz, 2004).

College Financial Planning Options for Parents

For most families, paying for college ultimately becomes a combination of approaches, including both strategies begun ahead of time as well as others used while a child is in college. The options for college saving that have been around for decades are mostly folded into the fabric of general family savings. Such options include savings accounts, certificates of deposit, U.S. savings bonds (particularly Series EE), U.S. zero-coupon bonds, money market accounts, money market funds, life insurance, mutual funds, and investments in stocks or real estate (Minnesota Higher Education Services Office, 2004). Family budgeting can help families reduce expenses in various ways to make more money for savings available, and parents can also do this by adding work hours or another job. Though perhaps some of the most common approaches taken by families, these “basic” financial planning options are rarely studied.

There are also numerous financial alternatives specifically for college that can be used during a student’s college years, and these have a tendency to change with institution and government policy and priorities. In addition to the well-documented changing federal emphasis toward financing a greater portion of postsecondary education through college loans (Hearn & Holdsworth, 2004), another policy response to shifts in federal political preferences has been

more extensive use of the tax system. Augmenting longer-standing tax benefits, such as tax-free scholarships, fellowships and grants, and the Student Loan Interest Deduction, there are also newer tax benefits such as the Hope Credit, the Lifetime Learning Credit, the new American Opportunity Tax Credit passed as part of the 2009 stimulus package, and the Tuition and Fees Deduction (Dervarics, 2009; Internal Revenue Service, 2009). However, these only apply to parental financial planning inasmuch as parents may expect to take advantage of them during the college years. A variety of tax-advantaged savings plans have been authorized that can be used by parents who plan ahead, such as Qualified Tuition Programs (QTPs) authorized by Section 529 of the Internal Revenue Code and Coverdell Education Savings Accounts (ESAs, previously called Education IRAs), which have been innovations by those looking to make postsecondary education more affordable in the face of federal budget policy that emphasizes use of the tax system over discretionary spending (Jennings & Olivas, 2000).

Like tax credits and tax deductions, tax-advantaged savings plans (e.g. 529 state savings plans) are primarily targeted at and used by families who are relatively well off, since low- and middle-income families have no or little discretionary money for saving (College Board, 2008a; Dynarski, 2004). This is also true of withdrawing early Roth IRA distributions for qualified college expenses without penalty (Internal Revenue Service, 2009; Minnesota Higher Education Services Office, 2004). State prepaid tuition plans target more middle-income families, providing a hedge against the rising costs of postsecondary education by fully covering in-state tuition through installment payments, with various state and federal tax advantages (Jennings & Olivas, 2000). Complicating the options even further, a collection of private institutions has developed its own prepaid tuition plan for families interested in its member institutions.

While these choices allow families to tailor their college financial planning, the plethora of options available can be confusing as parents try to sort out the various benefits to determine a strategy best for them. Given the complexity of the financial planning landscape for college education, it is no wonder that many parents either do not know their options or have trouble figuring out where to begin, and that families in lower socio-economic circumstances with less discretionary money in the first place do not take advantage of the options to as great an extent as those who are better off. By exploring a range of reported parental financial college preparations and the amount parents of 10th grade students have already saved for college, this study aims to determine what strategies are being used by parents, particularly focusing on their idealistic college aspirations for their child, their realistic expectations, and the family's highest parental and grandparental educational levels.

Method

The data analyzed were drawn from the National Center for Education Statistics' (NCES) 2002 Education Longitudinal Study (ELS:2002) spring survey of parents most familiar with the school situation of sampled 10th grade students. Using a two-stage sampling process to achieve a nationally representative sample of students, 15,362 of students from 752 schools participated for an 87.3 percent weighted response rate. Parents were located either by contact information provided by the schools or from the locator information provided by the students on their surveys, and 13,488 of those contacted participated for an 87.5 percent weighted response rate. Parent questionnaires were available in English or Spanish. Only data for parents of responding students are included in the ELS:2002 data set (Ingels et al., 2004).

The data quality is relatively high for the variables used for this study. While nonresponse bias is always a concern, no questions on the parent survey were under the 85

percent response threshold which NCES defines as high nonresponse and particularly susceptible to nonresponse bias. It should be noted that data for Asian and Hispanic parents are weighted because their children were sampled at higher rates during the second sampling stage that selected students for the study (Ingels et al., 2004).

The dependent variables analyzed include whether parents are planning financially for college in any manner, the dollar amount of saving, participation in 13 types of specific financial preparation, and how many of these preparations the parents are taking. These 13 preparations include: starting a savings account, buying an insurance policy, buying savings bonds, investing in stocks or real estate, setting up a college investment fund (such as a mutual fund), starting to work another job or adding hours, establishing another form of savings, reducing expenses, planning to reduce expenses, re-mortgaging property or taking out a home equity loan, planning to re-mortgage property or take out a home equity loan, having their tenth grader save, or participating in a state-sponsored college savings program (see Appendix A for additional information about these variables). Even though several responses appear to fall into similar categories of behavior (e.g. savings-related, investment-related, loan-related, or lifestyle-related behaviors), a principal components analysis of the 13 specific financial preparation actions did not reveal any good reduction of the number of variables by combining them into scales representing constructs. Therefore, analysis was conducted on all 13 actions separately.

The primary independent variables investigated included parental aspirations and expectations, as well as parental and grandparental educational levels (see Appendix A). Variables which research has shown impact parental college savings were controlled, including demographic and education-related variables (see Appendix A). The demographic variables are parent age, income, number of children, ethnicity, primary language, and work status. The

education-related variables are school type, parental involvement in the child's school, whether the child has ever been held back in school, reading/math test scores, and pre-first-grade program attendance.

This last education-related variable, pre-first-grade program attendance, deserves special comment. While standard child grade advancement (e.g. never being held back in school) has been shown to correspond to higher levels of parental college savings (Horn et al., 2003), analysis of educational impact has not been extended before kindergarten. Given that participation in Head Start beginning in preschool has been shown to have a positive impact on later success in school, including lower grade retention, as well as higher reading ability and higher high school graduation rates (Reynolds, Temple, Robertson, & Mann, 2002), it seems plausible that there may be a connection between early educational experiences and subsequent parental college savings.

Unfortunately there are several variables that have been shown to affect college savings that are not part of this data set, including the health of the household head, net worth and retirement savings amount. While it is possible that these factors might be contributing error to the results via omitted variable bias, these items cannot be controlled since they were not asked of the survey respondents.

Correlation matrices were examined to check for highly correlated variables and to understand the relationship of the variables to one another. There was only one pair of variables that were so highly correlated as to cause concern: parental expectations and parental aspirations, which are correlated with a value of 0.56. This relatively high correlation is expected, since parents that realistically expect a bachelor's degree for their child are very likely to also desire that outcome. However, when we applied collinearity diagnostic tests to our models, specifically

examining the variance inflation factor (VIF), to get a more precise understanding of variable relationships and where problems may exist, all VIF values were less than Allison's (1999) cautionary range of 2.5 or higher, including the values for parental expectations and parental aspirations. Given the unique information that might be gained by including them, and given the acceptable VIF values, these (and all other) variables were retained for analyses.

Multiple imputation addressed missing data in the sample (Allison, 2002; Schafer & Graham, 2002), resulting in an analytic sample of 15,176 parents (after American Indian and multiracial students were dropped due to insignificant subpopulation sample sizes for regression analyses). Using logistic regression (for a dichotomous dependent variable), we first examined who engaged in any financial planning action. Then conditional on this outcome ($n=7,712$), we investigated which independent variables are significant predictors of the amount saved or the number of financial planning actions taken (Gravetter & Wallnau, 2004) via ordinary least squares regression (for continuous dependent variables). Then we analyzed each of the individual financial preparations separately (via logistic regression) to evaluate whether the change in their odds of being utilized was significant given a unit change in the primary independent variables (Hosmer & Lemeshow, 2000). As discussed below, after analyses were run, goodness-of-fit-indicators showed that we did not have a well-fitting model for 4 of the 13 individual actions, so we do not present any results for stocks, insurance policy, mortgage, or plan to mortgage one's home, and all analyses are for only 9 financial preparations.

Results

The parents who responded to this survey can be considered typical American parents of 10th grade children. Parents' aspirations for their child are generally higher than their expectations for their child's achievement (see Table 1). Most parents as well as most

grandparents have not attained a bachelor's degree. Most are White, are native-English speaking, work full-time, and have a child who attends public school and who went to some form of pre-first grade early childhood education. The "average" parents are around 40 years old, have 3 children, and have an income of more than \$60,000. Descriptive statistics for parental involvement and test score are less easily interpreted because they are operationalized as standardized variables. However, with these and other variables, there is an obvious shift from the full sample to the subsample – i.e., the subsample of parents who have taken financial action are more involved and have children with higher test scores.

The first outcome examined is the parental survey response to the following question: "Have you or your spouse/partner done anything specific in order to have some money for your tenth grader's education after high school?" The descriptive results in Table 1 indicate that about half of 10th graders' parents responded positively to this question. Logistic regression was then used to analyze predictors of this behavior, using the full sample (N=15,176). Table 2 shows that, net of other factors (including parental expectations), parental aspirations do not impact the likelihood of taking financial planning actions. However, parents with high realistic expectations are more likely to take some sort of action (net of aspirations). (Table 2 presents odds ratios; values greater than one represent increases in the odds of taking action, and values less than one represent decreases in the odds of taking action.) Aspirations and expectations are not often considered in models simultaneously, but by doing so we show that the desires that parents have for their children do not actually drive monetary behaviors. Rather, it is the more realistic appraisal of the student's future (i.e., expectations) that drives whether parents take financial actions.

Table 2 shows that if one of the student's parents has a four-year degree, they are more likely to take some financial planning actions, assuming all other variables are equal.

Specifically, parents with at least one bachelor's degree have odds of financially planning for their children's education that are 1.4 times higher than the odds of parents without a bachelor's degree. In addition, if at least one of a student's grandparents has a bachelor's or graduate degree, the student's parents have odds of taking financial action that are about 1.2 times higher than students whose grandparents do not have 4-year degrees. Other factors in our model which are positively associated with higher odds of taking some action are: parent age, family income, Asian and Black (compared to white), native English speaker, parental involvement, student test score, and if the child attended nursery school. Having a larger number of children in one's family decreases the odds that parents have taken any action for their 10th grader's future education.

Subsequent outcomes of interest are only for the sub-sample of the population that indicated that they had done something to have money for their child's education (N=7,712). Table 1 shows descriptive results for this subsample on all variables. Among parents who took some action, the average family participated in 4 to 5 of the 13 activities listed on the survey. The average dollar amount that these parents had saved by 10th grade was approximately \$15,300.² The descriptive results for each individual action in Table 1 show which activities are most common. By far the most common action taken was to start a savings account, and the least common action among the nine analyzed was to participate in a state-sponsored college saving program (such as a 529 program).

² This is the mean value of the variable in the final, imputed dataset. As shown in Appendix A, there were originally categories from which parents could select their amount saved.

Predictors of each of these outcomes were then examined via regression for the sub-sample of parents who had taken some action. Table 2 shows that the number of actions taken by parents is positively associated with parents expecting that their child will go on to attain a bachelor's degree. Although parental education was not positively related to the number of actions taken, grandparental education was statistically significant. The only other variables that are positively related to the number of distinct actions taken by parents are the level of involvement that parents had in the students' academic lives and whether the student attended nursery school as a child. Families are likely to take fewer distinct actions if the student is in private school (compared to public school) or if the older parent does not work (compared to a working parent).

Predictors of the amount of money saved are shown in the third column of Table 2. Neither aspirations nor expectations are predictive of the dollar amount that parents save for their children's college education. However, net of income and all other variables, a parent having a bachelor's degree is predictive of greater savings. A parent with a 4-year degree predicts approximately an additional \$1,900 saved, compared to having no parent with a bachelor's degree. Grandparental education is not statistically significantly related to the amount saved, net of other variables in the model. Several other variables are statistically significant in this model. Variables with the largest effects on the dollar amount saved are for students who did not attend public school: those attending Catholic school had parents that saved about \$3,500 more than those in public school and those attending non-Catholic private school had parents that saved about \$6,300 more than those in public school, net of income and all other variables. While income is significant, most other variables have larger effects on the dollar amount saved.

Next we used logistic regression to analyze the nine individual financial actions that parents may have taken for their children's education. The results are shown in Figure 1, in a unique but accessible manner (full regression results are shown in Appendix B). To read the figure, follow the line(s) from top to bottom for each action in order to identify variables affecting the probability of the action (i.e. more or less likely). Similar variables are grouped vertically for ease of comparison.

Using actions where our variables of interest are significant as examples, looking at Figure 1, we see that parents with higher incomes are less likely to "reduce other expenses", but they are more likely to cut expenses if they are more involved in their child's schooling, have higher expectations for their child, if a grandparent has at least a bachelor's degree, or if they are Asian. Parents are more likely to set up a college investment fund if they are more involved, have a higher income, have higher aspirations, if one of them has at least a bachelor's degree, if a grandparent has at least a bachelor's degree, or if their child went to nursery school. Participating in a state-sponsored college savings program is more likely if parental involvement is high, if a grandparent has at least a bachelor's degree, or if their child participated in Head Start prior to first grade.

One caveat to using this type of a model is that we strictly use 0.05 as our level of statistical significance, and do not indicate substantive significance in this figure. A variable that is just barely statistically significant is included in the model, whereas one that is just barely insignificant is not, thus not representing the complete extent to which each variable predicts the outcome. In addition, the size of the coefficient (i.e., the substantive "effect") is not included in this model, which is necessary for an understanding of the relative importance of the model's variables. Therefore, Figure 1 gives a useful, accessible introductory picture of our results, but

should be used in conjunction with the table in Appendix B to get a complete understanding of the results.

Using this method, it becomes apparent that the variable which predicts nearly all of the individual actions is parental involvement. In other words, parents who are more involved in their child's academic life are more likely to have taken these individual actions for their child's education by the 10th grade. Another interesting result in this figure is that income is a significant predictor of many of these actions, but more often negatively than positively. Parents with higher incomes are more likely to start a college fund, but are less likely to get a new job, reduce expenses, or have the 10th grader put aside their own savings.

A number of variables are notable for their lack of predictive ability. Net of all other variables in the models, parents are only more likely to plan to reduce their expenses when children have higher test scores. Other variables (perhaps expectations or involvement) may drive financial planning behaviors more than the student's academic performance. Whether a student was ever held back is not predictive of any of our outcomes, although past research has found this to be a significant factor. Gender is not predictive of how parents take action for future educational planning, which matches recent research concerning gender differences in educational planning, but is different than historical trends concerning gender and education.

Race/ethnicity or native language is a significant factor for five of the actions, but there are few effects of any particular characteristic and patterns in the results are elusive. If parents are Black, they are less likely to have their child put aside earnings. Blacks are more likely to plan to cut expenses, while Asians are more likely to report actually doing so. Blacks and Latinos are both less likely to buy U.S. savings bonds. Native English speakers are more likely to buy

U.S. savings bonds, but less likely to utilize another form of savings. The dissimilarities suggest that different strategies appeal to parents of different characteristics.

Early childhood education impacts four of the nine actions investigated. Whether or not a student was in Head Start as a child is only predictive of two actions: whether or not a parent takes another job and/or works more hours to help save for their child's education and participation in a state-sponsored savings program. Sending a child to nursery school is positively predictive of two different actions: savings bonds and starting a college investment fund. These results (as well as results for daycare) are significant findings that link parents' early educational experiences with their children to their planning for postsecondary education.

Our main variables of interest are only predictive of a few of the nine financial planning actions, assuming the other variables to equal. Three of our key independent variables predict whether or not parents will have started a college investment fund for their child: parental aspirations, parental education, and grandparental education are all positively related to this action. Parents who realistically expect their child to attain a bachelor's degree have odds of reducing their expenses to help fund their child's education that are 1.5 times higher than parents without those expectations. Students who have a grandparent with a bachelor's degree are also more likely to have parents that reduce their expenses than students without this level of grandparental education. Grandparental education is also positively related to whether or not a parent has started participating in a state-sponsored college savings plan; a grandparent with a bachelor's degree increases the odds of this action about 1.3 times.

Discussion

Our initial regression model explores what may predict whether or not parents of 10th grade students in 2002 had begun to prepare financially in some way for their child's

postsecondary education.. As expected, if at least one parent realistically expects that the child will go on to attain a bachelor's degree, the parents are significantly more likely to have initiated some financial action. This is interesting first, because our descriptive results show that although about three-quarters of parents have this expectation for their children, only about half of all parents have actually begun engaging in some financial planning. This is similar to a gap between expectations and saving behaviors recently reported for parents with children under age 18 (Sallie Mae, 2009). Second, although parental idealistic aspirations (i.e., desires) are related to financial actions when expectations are not controlled (results not shown), when the two related factors are included in the same model, the more realistic expectations are what is actually predictive of parental behavior. In other words, even if parents desire for their children to go to college, whether or not they begin to plan for this is more related to their actual estimation of the likelihood of such an outcome.

Family levels of education are also predictive of whether or not financial planning for college has begun. If at least one parent has a bachelor's degree, net of income and other factors, the parents are more likely to take action. This may represent a greater understanding among those that have already been to college that how that education is financed is an increasingly important question as tuition increases outpace the cost of living. The benefits of beginning early to plan financially for college may be more readily apparent to those that have already had the experience themselves, especially when navigating complex financial aid and/or savings mechanisms. Even more interestingly, if at least one of a student's grandparents has a bachelor's degree, the parents of that student are more likely to have saved (assuming that the parental education levels are the same). This may imply a multi-generational transmission of the understanding of the importance of early planning for students' postsecondary education.

When only examining the subsample of those students whose parents had actually begun to plan in some way, these same family factors are predictive of the number of actions that they take and the amount of money that they actually save. Parental expectations (but not aspirations) for a bachelor's degree increase the number of actions that parents are likely to take.

Grandparental education (but not parental education) is also predictive of the number of actions taken, again showing a multi-generational family effect on planning for postsecondary education.

Parental education is the only one of our key variables of interest that is predictive of the dollar amount that parents have saved for their students by 10th grade. Importantly, this effect is net of family income (which is also predictive of a greater amount saved). This result could be due to the greater wealth (as opposed to income) of families with higher education levels, greater financial planning opportunities for parents in occupations that require higher levels of education (such as company matching programs), or, as we propose, a greater or more nuanced understanding of the need to plan early in order to navigate the complex and expensive college transition process.

Parental expectations, parental education, and grandparental education may be thought of as necessary components (though not sufficient for a complete understanding) of a family's social and cultural capital. These results imply that students whose families have greater levels of these indicators are more likely to have them converted into financial capital specifically for the purpose of their postsecondary education. Regardless of family income, school attended, race/ethnicity, and more, these factors allow families to confer advantages on their children via more extensive early financial planning for further education.

Family expectations and education are less predictive of the specific individual actions that parents took than for the broader outcomes discussed above. However, one or more of these

factors increases the likelihood of families starting a college investment fund, participating in a state-sponsored savings program, and reducing family expenses in order to have more for college. Grandparental education is a significant predictor for all three of these actions, reinforcing the importance of this triple-generational influence.

Across all of our models, some of the other independent variables are consistently significant and are obviously related to college financial planning. Not surprisingly, income is predictive of most of our outcomes, and in ways that would largely be expected. This is representative of the direct effect of family financial capital on educational planning, rather than the two-stage effect of other forms of family capital on planning via the conversion to finances. The relative strength of non-financial variables is made partly visible in our results since income is a statistically less significant predictor of the amount a family saved than other factors, and also (for every \$10,000 increase) has a smaller coefficient than several non-financial variables. This may indicate that while having financial capital is important, a family's values, opportunities, and barriers (which are affected by one's habitus) play at least an equivalent if not more significant role in determining how much a family saves for college.

Parental involvement is, by the number of models in which it is statistically significant, the most predictive factor for parental financial planning. Parents who are involved in their children's education (such as PTO participation or volunteering at school) are more likely to have planned for postsecondary education by 10th grade, although their decision about how much to save is based on other considerations. Parental involvement was not one of the original variables of interest within our conceptual framework, but perhaps should have been. In fact, parental involvement (though measured somewhat differently) was considered a form of social

capital in Coleman's (1988) groundbreaking work on the topic.³ Parental involvement as we measure it may also represent a family "norm" whereby education is visibly valued and planned for, i.e., a form of cultural capital.

Coleman's work on social capital raises another observation concerning one of our control variables. He suggested that the number of children in a family was an indicator of a lack of social capital because it represents "a dilution of adult attention to the child" (p. S111). In our models (see Table 2), the number of children in a family is negatively related to taking any financial planning actions (each additional child lowers the odds of taking action by about 11%) and to the amount of money saved (each additional child predicts approximately \$1100 less saved for the 10th grader). These results may match Coleman's ideas of a lack of social capital for the child, or may alternatively be thought of as a dilution of parents' social/cultural capital. In other words, for families with equal levels of education, expectations, involvement, income, etc., those with more children may be able to devote less of those resources to any one child – the conversion of social/cultural capital to financial capital is perhaps more widely dispersed in such cases.

Our results lead to a number of implications for both future research and policy. While we analyzed more detailed financial preparations than previous studies of college savings, specific education savings vehicles were not distinguished. For example, investments in a Coverdell Education Savings Account would be combined with alternate vehicles recommended by some financial planners, such as a Roth IRA (Higgins, 2008), and with similar generic investment options in the response choice of "a college investment fund" (National Center for Education Statistics, 2002, p. 28). The general nature of such response choices means that only

³ Coleman considered parental education as human capital, rather than as a component of cultural capital. However, as Martin & Spenner (2009) note: "Bourdieu considers the academic skills, values and abilities that we regard as dimensions of human capital as examples of embodied cultural capital" (p. 626).

general parental strategies can be evaluated. Future research could distinguish between general family savings that are intended for college and specific college savings vehicles.

The fact that grandparent education level is a significant predictor of college financial planning indicates that the family capital concept, and the conversion of that capital, works across multiple generations. This suggests future research should consider intergenerational education as a potential factor in college-related financial decision-making, and that other triple-generational effects are worth investigating for many facets of the college planning and college choice processes.

An inconsistent but intriguing set of results connects a child's earliest educational experiences to planning for college. Participation in nursery school and Head Start are predictive of some of our outcomes and may show that a propensity to further a child's education is at work from the earliest years through 10th grade, or alternatively that such early experiences have some effect on families that relates to greater understanding of the need to be involved in planning for a student's continued education. Such questions need greater theorizing and empirical study, but would be worth investigation.

Future analysis could also continue via future releases of ELS or with other longitudinal data. Such research could investigate whether family financial preparation or the amount of savings are associated with higher levels of postsecondary enrollment or degree attainment, how various forms of financial preparation relate to financial aid received for families of different socio-economic circumstances, or whether triple-generational educational achievement affects how college bills are ultimately paid.

Our results may also help to inform various policies and practices concerning college planning. In many ways, our study confirms the assumptions of many policies and practices –

low-income and first-generation students, as well as their families, are likely to need extra assistance and support in order to navigate the college planning and choice processes. However, our results also indicate that broader “family” factors may be valuable to consider. In addition to whether a student’s parent has a college education, those looking to assist in college planning may want to consider multi-generational education levels of the family, the size of the family, the involvement of the family in school, or the native language of the parents.

Those framing specific financial planning policies, such as those related to state-sponsored savings programs, may want to consider who is most likely to participate, and strive to put information and support in place specifically for those least likely to participate (e.g. those with lower levels of family education or those whose parents are less involved). Involved parents of all incomes utilize savings accounts, savings bonds, and state savings programs, so dissemination efforts for less involved parents that discuss these options may resonate broadly. However, non-native English speakers are more likely to use another form of savings not specified in this study, so more investigation is needed to learn about these alternate strategies and how best to reach these parents. Since lower-income families are more likely to use strategies that have the potential to get hit harder by financial aid formulas (e.g. savings in a child’s name is used at a greater percentage than savings in a parent’s name, and parental income from an additional job or more hours during the college years is used at a greater percentage than parental savings), these results reinforce the need to emphasize advice regarding strategies that will help such families yield the highest return possible for their planning efforts. In our study, state plans were the least commonly used strategy, but that may be partly because they are so new. These programs appear to be growing in popularity (12% of our 2002 subsample participated whereas in 2009, 33% of parents reported participation in 529 savings plans (Sallie

Mae, 2009)), but could possibly be made more apparent or desirable to those currently least likely to participate in them. Although it is speculative at this point, early childhood education programs such as Head Start may also want to take actions to be more intentional, even at such an early stage, about helping parents to think ahead concerning how to make the possibility of college financially feasible for their children.

A college education is becoming ever more important to a number of life outcomes, but with tuition, fees, and associated costs of attending college skyrocketing, early financial planning for college is of increased importance. Our results help to understand what parents are doing such planning, and what forms those financial actions are taking. We have exposed some differences in financial planning based on specific components of family capital – positive college expectations and multiple generations of family education levels. By and large, those students with the fewest of these familial resources are disadvantaged in the area of financial planning, to add yet another component to the disadvantages they experience in the college transition process. Further research to uncover the more detailed processes at work, and policy initiatives to balance inequities in the college opportunity structure should expand and continue this type of work.

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Table 1. Estimated (weighted) means and standard errors

	Full Sample		Parents who have taken some financial action	
	(N=15,176)		(N=7,712)	
	Mean	SE	Mean	SE
Parental expectations (\geq bachelor's)	.724	.007	.786	.009
Parental aspirations (\geq bachelor's)	.866	.004	.903	.005
Parent has bachelor's	.379	.008	.497	.010
Grandparent has bachelor's	.257	.007	.328	.009
Parent age	40.032	.079	46.591	.110
Income (in \$10,000)	6.414	.102	8.090	.146
Number of children	3.351	.023	3.122	.030
Female	.496	.005	.492	.009
Asian	.044	.003	.047	.003
Latino	.168	.009	.116	.007
Black	.152	.007	.144	.007
Parent native English speaker	.845	.007	.890	.007
Parent works part-time	.087	.003	.083	.004
Parent does not work	.176	.005	.146	.006
Catholic school	.043	.002	.057	.003
Private school	.033	.002	.044	.004
Parental involvement (std)	-.103	.014	.105	.020
Student held back	.134	.004	.106	.005
Test Score (std)	-.059	.020	.141	.022
Daycare	.359	.006	.402	.008
Nursery school	.585	.008	.670	.009
Head Start	.192	.006	.160	.007
Kindergarten	.961	.003	.973	.004
Any financial action taken	.508	.007	--	--
Number of actions taken	--	--	4.558	.081
Amount saved (\$)	--	--	15,284.4	413.535
Savings account	--	--	.748	.008
Savings bonds	--	--	.373	.010
College investment fund	--	--	.342	.015
Another form of savings	--	--	.316	.009
Another job and/or more hours	--	--	.223	.009
Reduced other expenses	--	--	.387	.014
Plan to reduce other expenses	--	--	.528	.013
Had 10 th grader put aside earnings	--	--	.389	.012
State-sponsored savings program	--	--	.123	.007

Table 2. Regression models for parents' financial planning for their 10th grader's postsecondary education

Independent variables	Any action taken (logistic – odds ratios reported)	Number of actions (OLS – 0 to 13)	Amount saved (OLS – \$)
Parental expectations	1.234* (0.0914)	0.267* (0.111)	-87.06 (942.7)
Parental aspirations	1.083 (0.112)	0.270 (0.157)	199.3 (1048)
Parent has bachelor's	1.435** (0.0878)	0.0478 (0.0848)	1,884* (689.1)
Grandparent has bachelor's	1.162* (0.0717)	0.198* (0.0757)	1,362 (672.0)
Parent age	1.010* (0.00452)	0.00448 (0.00609)	160.7** (38.11)
Income (in \$10,000)	1.102** (0.00834)	0.00720 (0.00927)	1,033** (51.95)
Number of children	0.886** (0.0177)	-0.0118 (0.0216)	-1,097** (142.4)
Female	0.959 (0.0544)	-0.0878 (0.0616)	297.0 (436.5)
Asian	1.479* (0.188)	0.259 (0.169)	2,284 (1044)
Latino	0.949 (0.0929)	-0.00444 (0.121)	-214.3 (874.6)
Black	1.249* (0.100)	0.253 (0.132)	-683.1 (986.9)
Parent native English speaker	1.418* (0.195)	-0.0320 (0.132)	-93.28 (814.2)
Parent works part-time	0.922 (0.0855)	0.0803 (0.123)	2,230* (747.8)
Parent does not work	0.865 (0.0628)	-0.282* (0.0946)	4,602** (703.4)
Catholic school	0.913 (0.0675)	0.102 (0.0848)	3,464** (791.5)
Private school	0.849 (0.103)	-0.422** (0.123)	6,334** (887.9)
Parental involvement (std)	1.351** (0.0383)	0.286** (0.0348)	385.5 (247.6)
Student held back	1.015 (0.0989)	-0.0915 (0.158)	-455.8 (922.0)
Test Score (std)	1.082* (0.0346)	0.0735 (0.0521)	-68.00 (326.4)

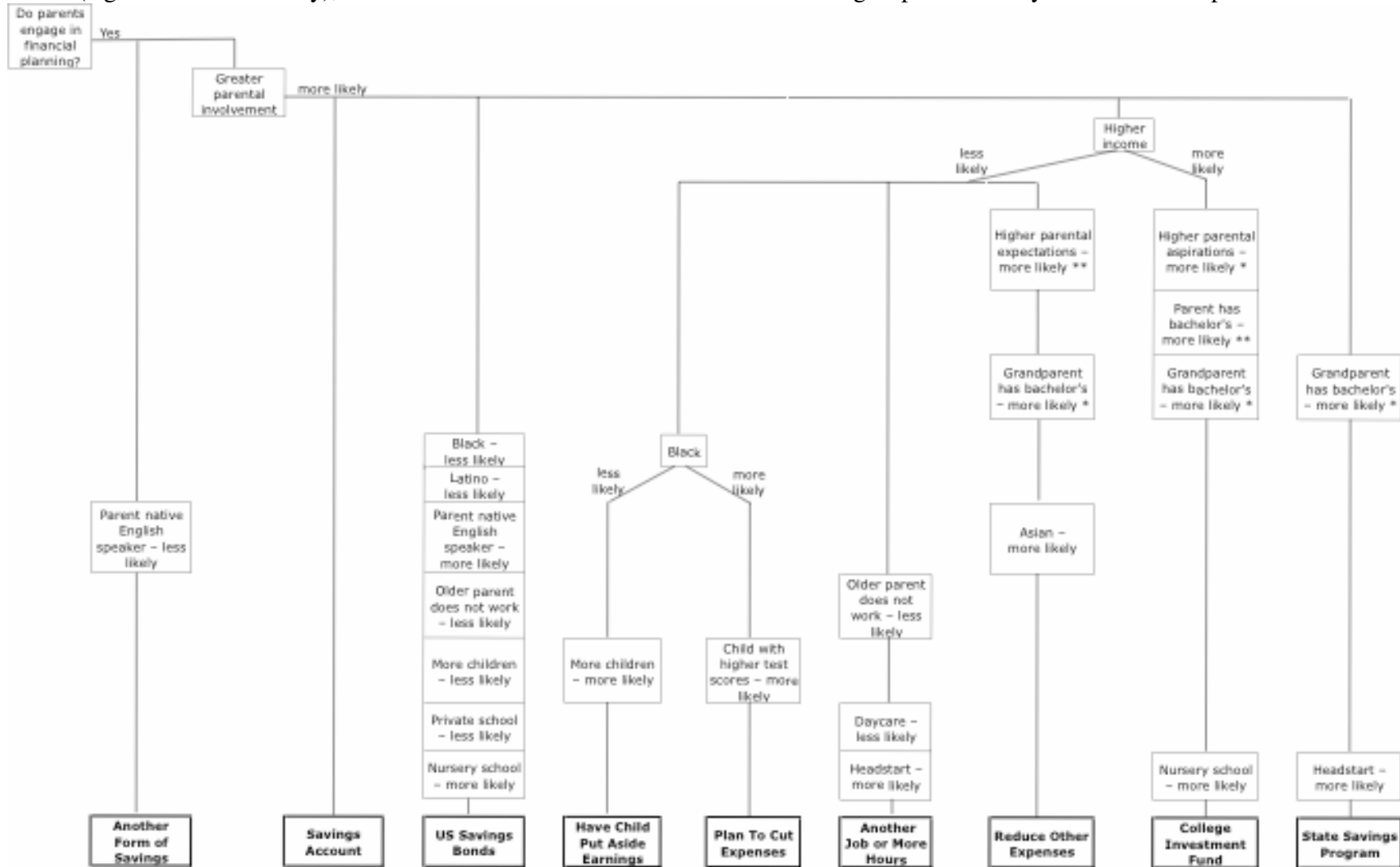
Table 2 (continued). Regression models for parents' financial planning

Independent variables	Any action taken (logistic – odds ratios reported)	Number of actions (OLS – 0 to 13)	Amount saved (OLS – \$)
Daycare	1.091 (0.0563)	0.0403 (0.0746)	297.6 (536.2)
Nursery school	1.173* (0.0611)	0.194* (0.0796)	1,605** (467.1)
Head Start	1.034 (0.0759)	-0.00826 (0.108)	1,283 (714.3)
Kindergarten	1.327 (0.212)	0.138 (0.274)	-903.5 (1,736)
Constant	0.193** (0.0583)	3.548** (0.390)	-522.6 (2,827)
Observations (N)	15,176	7,712	7,712
Log-likelihood	-8,741.634	--	--
BIC'	-2,543.020	--	--
R ²	--	.067	.280

Note: Standard errors in parentheses.

** p < 0.01, two-tailed. * p < 0.05, two-tailed.

Figure 1. Representation of significant logistic regression odds results for 9 parental financial planning actions (shown in bold). To read the figure, follow the line(s) from top to bottom for each action in order to identify variables affecting the probability of the action (e.g. more or less likely), each net of other variables. Similar variables are grouped vertically for ease of comparison.



** $p < 0.01$, two-tailed. * $p < 0.05$, two-tailed. (Shown only for aspirations/expectations and family education.)

Appendix A

Operationalization of Variables

Variable title, NCES Code	Operational notes
Dependent variables	
13 financial actions, BYP83A-M	Each of the following responses became a dummy variable with 1 = yes: <ol style="list-style-type: none"> Started a savings account Bought an insurance policy Bought U.S. savings bonds Made investments in stocks or real estate Set up a college investment fund (such as a mutual fund) Started working another job and/or more hours Established another form of savings Reduced other expenses in some way (e.g., pay off car, put off vacations or other expenses) Planned to reduce other expenses in some way Re-mortgaged your property or took out a home equity loan Planned to re-mortgage your property or take out a home equity loan Had your tenth grader put aside earnings Participated in a state-sponsored college savings program
Amount saved, BYP84	This question included the following answer choices: none, \$2,000 or less, \$2,001-\$5,000, \$5,001-\$10,000, \$10,001-\$20,000, \$20,001-\$30,000, \$30,001-\$50,000, and more than \$50,000. We created a pseudo-continuous variable from these categories, by assigning the midpoint of the category as the value of the variable, and assigned the top category a value of \$65,000. After imputation, about 0.2% of the data were imputed to a value higher than \$65,000, with the imputed maximum value being over \$100,000.
Independent variables of interest	
Parental Expectations, BYP81	We combined responses for: graduate from college, obtain a Master's degree or equivalent, and obtain a Ph.D., M.D., or other advanced degree. These were compared to the combined responses for lower educational attainment.
Parental aspirations, BYPARASP	We combined responses for: graduate from college, obtain a Master's degree or equivalent, and obtain a Ph.D., M.D., or other advanced degree. These were compared to the combined responses for lower educational attainment.

Appendix A (continued). Operationalization of Variables

Variable title, NCES Code	Operational notes
Parent has bachelor's, BYPARED	This variable indicates the highest level of education reached by either parent as indicated on either the Parent Questionnaire or the Student Questionnaire (if not indicated on the Parent Questionnaire). Responses were combined for: graduated from college, completed a Master's degree or equivalent, and completed a Ph.D., M.D., or other advanced professional degree. These were compared to the combined responses for lower educational attainment.
Grandparent has bachelor's, BYP35A-D	The variable used for analysis is the highest education level specified of the four grandparents. Responses were combined for: graduated from college, completed a Master's degree or equivalent, and completed a Ph.D., M.D., or other advanced professional degree. These were compared to the combined responses for lower educational attainment.
Demographic control variables	
Parent age, BYP11, BYP12	While the age of the household financial head is known to be related to parental college savings (Yilmazer, 2008), in the ELS:2002 data, it is only possible to determine the person most familiar with the child's schooling, since that is the person who is asked to respond to the survey. The age of the older parent is used as a proxy for the household financial head. This composite variable is the higher of the primary respondent's age or the spousal/partner's age.
Income, BYINCOME	Although NCES creates a composite variable for socio-economic status (SES), income is being used here both since that is the factor that has been analyzed in previous research and since parent's education level, which is one of the variables of interest being investigated here, is part of the NCES composite SES variable. We created a pseudo-continuous variable from the original categories, by assigning the midpoint of the category as the value of the variable.
Number of children, BYP08	Since this question asks about siblings of the 10 th grader, one is added to the number of children reported in order to include the survey's 10 th grader.
Female, BYSEX	This is a dummy variable coded with 1 = male.
Asian, Latino, Black, BYPARACE	Multi-racial and American Indian categories were dropped due to lack of sufficient data for analysis. Asian, Latino, and Black are dummy variables compared to White as the reference group.

Appendix A (continued). Operationalization of Variables

Variable title, NCES Code	Operational notes
Parent native English Speaker, BYP28	This is a dummy variable coded with 1 = English.
Parent works part time, Parent does not work, BYP36, BYP40	For these two variables, the work status of the parent or spouse/partner identified as older in the Parent Age composite variable is used. These are dummy variables compared to working full-time (35 hours or more) as the reference group.
Education-related control variables	
Catholic school, Private school, BYSCTRL	These two variables are dummy variables compared to private school as the reference group.
Parental school Involvement (std), BYP54A-E	This question included the following answer choices: belong to the school's parent-teacher organization, attend meetings of the parent-teacher organization, take part in the activities of the parent-teacher organization, act as a volunteer at the school, and belong to any other organization with several parents from your tenth grader's school (for example, neighborhood or religious organizations). We created a continuous, standardized variable for this variable via factor analysis.
Student held back, BYP46	This is a dummy variable with 1 = held back.
Test Score (std) ^a , BYTXCSTD	This standardized test score composite was created by NCES from the ELS:2002 Cognitive Tests in math and reading.
Daycare, Nursery school, Head Start, Kindergarten, BYP44A-D	Each of these early childhood education variables were coded as dummy variables where 1 = participation for that type of pre-first-grade program.

Note. The code refers to the title given in the ELS:2002 Codebook.

Appendix B

Logistic Regression Results for Individual Financial Planning Actions (odds ratios reported)

	Savings account	Savings bonds	College investment fund	Another form of savings	Another job and/or more hours	Reduced other expenses	Plan to reduce other expenses	Had 10 th grader put aside earnings	State- sponsored savings program
Parental expectations	1.190 (0.158)	1.128 (0.117)	0.916 (0.134)	0.994 (0.108)	1.096 (0.178)	1.453** (0.166)	1.177 (0.142)	1.335 (0.180)	1.091 (0.212)
Parental aspirations	1.229 (0.227)	0.988 (0.144)	1.998* (0.547)	1.103 (0.182)	1.038 (0.221)	1.028 (0.156)	1.090 (0.166)	0.830 (0.154)	1.805 (0.476)
Parent has bachelor's	1.051 (0.0834)	1.170 (0.0873)	1.404** (0.135)	0.881 (0.096)	0.993 (0.092)	0.954 (0.080)	1.012 (0.100)	1.035 (0.095)	1.157 (0.160)
Grandparent has bach.	0.966 (0.0831)	0.911 (0.0718)	1.211* (0.0977)	1.181 (0.0970)	1.124 (0.111)	1.197* (0.0907)	1.139 (0.100)	1.042 (0.107)	1.308* (0.133)
Parent age	1.007 (0.006)	1.001 (0.006)	1.008 (0.006)	1.004 (0.005)	0.994 (0.006)	0.998 (0.006)	0.997 (0.008)	1.000 (0.005)	1.003 (0.008)
Income (in \$10,000)	1.012 (0.007)	1.004 (0.007)	1.049** (0.009)	1.011 (0.007)	0.958** (0.010)	0.964** (0.007)	0.955** (0.006)	0.978** (0.006)	1.006 (0.010)
Number of children	0.974 (0.0278)	0.917** (0.0210)	0.958 (0.0259)	1.007 (0.0249)	1.030 (0.0298)	1.050 (0.0303)	1.015 (0.0233)	1.132** (0.0259)	1.046 (0.0322)
Female	0.974 (0.0712)	1.007 (0.0756)	0.902 (0.0645)	0.923 (0.0700)	1.002 (0.0871)	0.993 (0.0598)	0.978 (0.0675)	0.884 (0.0633)	0.897 (0.0996)
Asian	1.182 (0.204)	0.900 (0.174)	0.970 (0.164)	0.956 (0.179)	1.121 (0.239)	1.527* (0.251)	1.274 (0.201)	0.636 (0.128)	1.508 (0.416)
Latino	1.075 (0.144)	0.616** (0.0859)	0.770 (0.118)	1.250 (0.162)	1.087 (0.195)	1.025 (0.164)	1.175 (0.147)	0.752 (0.104)	0.994 (0.189)
Black	1.313 (0.174)	0.714* (0.0943)	1.079 (0.129)	1.284 (0.164)	1.140 (0.204)	1.281 (0.170)	1.570* (0.227)	0.661** (0.0764)	1.325 (0.301)
Parent native English	1.180 (0.185)	1.715** (0.290)	1.046 (0.164)	0.620* (0.104)	0.739 (0.124)	0.847 (0.128)	0.736 (0.103)	0.908 (0.147)	1.108 (0.325)
Parent works part-time	0.995 (0.130)	0.940 (0.112)	1.218 (0.154)	1.098 (0.176)	1.203 (0.158)	0.870 (0.105)	0.925 (0.119)	1.091 (0.132)	1.225 (0.232)
Parent does not work	0.852 (0.108)	0.747* (0.0922)	1.111 (0.126)	0.976 (0.0962)	0.638** (0.0905)	0.860 (0.0826)	0.807 (0.0800)	0.908 (0.0963)	1.284 (0.194)

Appendix B (continued). Logistic Regression Results for Individual Financial Planning Actions

	Savings account	Savings bonds	College investment fund	Another form of savings	Another job and/or more hours	Reduced other expenses	Plan to reduce other expenses	Had 10 th grader put aside earnings	State- sponsored savings program
Catholic school	0.822 (0.0782)	1.081 (0.102)	1.228 (0.112)	0.963 (0.0921)	1.040 (0.114)	1.183 (0.103)	1.088 (0.0948)	0.937 (0.0821)	1.063 (0.147)
Private school	0.768 (0.112)	0.596** (0.0728)	0.957 (0.0979)	1.021 (0.145)	0.928 (0.123)	0.877 (0.0929)	0.768 (0.0898)	0.782 (0.108)	0.672 (0.133)
Parental involve (std)	1.205** (0.0485)	1.151** (0.0381)	1.120* (0.0416)	1.056 (0.0382)	1.119** (0.0407)	1.112* (0.0390)	1.160** (0.0398)	1.105* (0.0388)	1.213** (0.0653)
Student held back	0.981 (0.120)	0.850 (0.109)	0.744 (0.151)	1.049 (0.147)	1.049 (0.155)	0.946 (0.135)	1.152 (0.133)	0.977 (0.129)	0.973 (0.249)
Test score (std)	0.924 (0.0460)	0.992 (0.0517)	1.091 (0.0530)	0.953 (0.0430)	1.086 (0.0598)	1.044 (0.0603)	1.101* (0.0411)	1.080 (0.0426)	0.972 (0.0698)
Daycare	1.022 (0.0819)	1.135 (0.0842)	0.990 (0.0728)	1.056 (0.0964)	0.779* (0.0770)	1.043 (0.0849)	0.969 (0.0866)	0.983 (0.0698)	1.097 (0.148)
Nursery school	1.079 (0.0947)	1.232* (0.0941)	1.625** (0.137)	0.941 (0.0890)	1.085 (0.113)	0.925 (0.0800)	0.986 (0.0828)	1.002 (0.0714)	0.896 (0.0961)
Head Start	1.101 (0.144)	0.837 (0.0847)	0.947 (0.121)	0.910 (0.105)	1.264* (0.130)	0.983 (0.102)	0.936 (0.0933)	1.061 (0.113)	1.423* (0.185)
Kindergarten	0.961 (0.193)	1.345 (0.344)	1.024 (0.304)	0.694 (0.180)	0.846 (0.254)	1.158 (0.284)	0.905 (0.263)	1.409 (0.453)	0.600 (0.216)
Constant	1.305 (0.566)	0.285* (0.143)	0.0848** (0.0561)	0.705 (0.323)	0.626 (0.256)	0.549 (0.204)	1.909 (1.150)	0.436 (0.199)	0.0606** (0.0362)
Observations (N)	7,712	7,712	7,712	7,712	7,712	7,712	7,712	7,712	7,712
Log-likelihood	-4,170.032	-4,790.527	-4,406.802	-4,660.999	-3,945.388	-4,996.160	-5,057.209	-4,980.328	-2,835.987
BIC'	-125.914	-413.451	-912.685	-71.444	-193.580	-176.814	-267.730	-172.288	-177.197

Note: Standard errors in parentheses.

** p < 0.01, two-tailed. * p < 0.05, two-tailed.